

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A video data coding/decoding apparatus comprising:

an encoder dividing a partition partitioned by a data partitioning technique into certain blocks, channel-coding the divided block data and transmitting a bit stream, the encoder inserting channel coding information into the partitioned data, the channel coding information including size information of each of the plurality of partitions, wherein the inserted channel coding information relates to an index of a channel coding rate table (CCRT); and

a decoder channel-decoding the bit stream received from the encoder so as to restore a video data.
2. (Original) The apparatus of claim 1, wherein the encoder divides the partition into a plurality of blocks according to a predetermined block size.
3. (Canceled)
4. (Currently Amended) The apparatus of claim [[3]] 1, wherein the channel coding is performed in units of bytes.

Reply to Office Action dated April 6, 2006

5. (Currently Amended) The apparatus of claim 4, wherein ~~the~~ a number of channel coding bytes is computed by the following equation:

the number of channel coding bytes = $\text{Trunc}(I * \text{CCRT}[\text{index}])$, wherein 'I' indicates an information byte, $\text{CCRT}[\text{index}]$ indicates a channel coding rate, and Trunc indicates a truncation operator.

6. (Previously Presented) The apparatus of claim 1, wherein the encoder comprises:
a variable length coder source-coding the video data, partitioning it into a plurality of partitions, and dividing each partition into certain blocks;

a channel coder channel-coding the partition data of the divided block; and

a partition mixer mixing a partition table storing the size information of the plurality of partitions and the plurality of partitions, so as to form the bit stream.

7. (Previously Presented) The apparatus of claim 6, wherein the bit stream comprises:

a slice start code (SSC);

the partition table storing the size information of each partition;

a first partition including a header portion having the information bits of the channel-coded video data;

a second partition having motion vector (MV) information;

a third partition having a discrete cosine transform(DCT) coefficient; and

a zero-bit inserting unit for byte-alignment.

8. (Previously Presented) The apparatus of claim 1, wherein the decoder comprises:
- a partition demixer partitioning the bit stream into a plurality of partitions with reference to a partition table contained in the received bit stream;
 - a channel decoder channel-decoding each partition data according to an index of the CCRT and outputting the source-coded partition; and
 - mixing the source-coded partitions and performing a source-coding on the partitions so as to restore an original video data.

9. (Currently Amended) ~~The apparatus of claim 1~~ A video data coding/decoding apparatus comprising:

an encoder dividing a partition partitioned by a data partitioning technique into certain blocks, channel-coding the divided block data and transmitting a bit stream, the encoder inserting channel coding information into the partitioned data, the channel coding information including size information of each of the plurality of partitions, wherein the encoder comprises:

a variable length coder source-coding a video data and partitioning it into a plurality of partitions, and dividing each of the partitioned partitions into the certain blocks;

a channel coder channel-coding the partition data of the divided blocks,
wherein the channel coder inserts an information bit termination bit at an end of the information
bit of partition 3 so as to indicate how many zero bits have been inserted;

a partition mixer mixing the plurality of channel-coded partitions; and

a marker emulation eliminator checking whether a marker emulation has
occurred in the mixed partitions and performing a marker emulation avoiding operation, and

a decoder channel-decoding the bit stream received from the encoder so as to
restore a video data.

10. (Currently Amended) The apparatus of claim ~~[[9]]~~ 11, wherein the channel coder
inserts an information bit termination bit at the end of the information bit of partition 3 so as to
know how many zero bits have been inserted.

11. (Currently Amended) ~~The apparatus of claim 9~~ A video data coding/decoding
apparatus comprising:

an encoder dividing a partition partitioned by a data partitioning technique into
certain blocks, channel-coding the divided block data and transmitting a bit stream, the encoder
inserting channel coding information into the partitioned data, the channel coding information
including size information of each of the plurality of partitions, wherein the encoder includes:

a variable length coder source-coding a video data and partitioning it into a
plurality of partitions, and dividing each of the partitioned partitions into the certain blocks,

a channel coder channel-coding the partition data of the divided blocks,
a partition mixer mixing the plurality of channel-coded partitions, and
a marker emulation eliminator checking whether a marker emulation has
occurred in the mixed partitions and performing a marker emulation avoiding operation,
wherein the marker emulation eliminator generates a window which has less bits than the marker
bits and checks whether a marker emulation has occurred between the partition data; and
a decoder channel-decoding the bit stream received from the encoder so as to
restore a video data.

12. (Original) The apparatus of claim 11, wherein the marker emulation eliminator
inserts a predetermined value into the portion next to the portion matching the window in order
to avoid a marker emulation when a marker emulation occurs between the partition data.

13. (Original) The apparatus of claim 12, wherein the marker emulation eliminator
transposes the information bit and the channel coding bit in the partition data when a marker
emulation occurs between the data and the marker.

14. (Currently Amended) ~~The apparatus of claim 1~~ A video data coding/decoding
apparatus comprising:

an encoder dividing a partition partitioned by a data partitioning technique into
certain blocks, channel-coding the divided block data and transmitting a bit stream, the encoder

inserting channel coding information into the partitioned data, the channel coding information including size information of each of the plurality of partitions; and

a decoder channel-decoding the bit stream received from the encoder so as to restore a video data, wherein the decoder comprises:

an insertion bit eliminator searching a marker ~~while and~~ removing bits ~~which that~~ have been inserted to avoid a marker emulation from the received bit stream;

a partition demixer demixing the bit stream into a plurality of partitions when a marker is discovered;

a channel decoder computing a total bit amount, an information bit amount and a channel coding bit amount of each partitioned partition and channel-decoding the partition data according to an index of a channel coding rate table (CCRT); and

a variable length decoder mixing the partitions which have been channel-decoded by the channel decoder and performing a source-coding on it so as to restore an original video data.

15. (Previously Presented) The apparatus of claim 14, wherein the total bit amount is a bit amount between the markers in case of partition 1 and partition 2.

16. (Previously Presented) The apparatus of claim 14, wherein the channel bit amount is a value obtained by subtracting the number of the information bytes (I) from the

number of the total bytes (Total), and the number of the information bytes (I) is an integer value of 'Total/(CCRT[index]+1)'.

17. (Original) The apparatus of claim 14, wherein in case of one partition is made with a plurality of blocks and certain blocks correspond to a predetermined block size (BLS), the information bit is the block size and an additional bit is $\text{Trunc}(\text{BLS} * \text{CCRT}[\text{index}])$.

18. (Previously Presented) The apparatus of claim 17, wherein in case that one partition is made with a plurality of blocks and certain blocks are smaller than the BLS, a channel coding bit amount is a value obtained by subtracting the information bits (small-info) from the number of residual bytes (small_Total) by taking the partition as 'BLS+ $\text{Trunc}(\text{BLS} * \text{CCRT}[\text{index}])$ ', and the information bit (small-info) is an integer value of $\text{small_Total}/(\text{percent}+1)$.

19. (Previously Presented) The apparatus of claim 14, wherein the total bit amount is equivalent to a bit amount except for the information bit termination bit inserted at the rear end of the DCT partition and the zero-bit inserted for byte-alignment, in case of partition 3.

20. (Currently Amended) A video data coding method comprising the steps:
partitioning a source-coded video data into a plurality of partitions and dividing each partition into certain blocks according to a predetermined block size;

inserting a channel coding byte into each divided block and channel-coding a partition data; and

mixing a partition table storing size information of each of the partitions and the channel coded partitions so as to form a bit stream, wherein the channel coding is performed in units of bytes, and a number of the channel coding bytes is computed by the following equation:

the number of channel coding bytes = Trunc(I*CCRT[index]), wherein 'I' indicates an information byte, CCRT[index] indicates a channel coding rate, and Trunc indicates a truncation operator.

21. (Previously Presented) The method of claim 20, wherein the bit stream comprises:
- a slice start code (SSC);
 - the partition table storing the size information of each partition;
 - a first partition including a header portion having the information bits of the channel-coded video data;
 - a second partition having motion vector (MV) information;
 - a third partition having a discrete cosine transform(DCT) coefficient; and
 - a zero-bit inserting unit for a byte-aligning.

22-23. (Canceled)

24. (Currently Amended) A video data decoding method comprising ~~the steps~~:
partitioning a bit stream into a plurality of partitions with reference to a partition table included in the received bit stream, the partition table including size information of each of the partitions;
channel-coding each partition data according to an index of a CCRT and outputting the source-coded partition; and
mixing the source-coded partitions and performing a source-decoding on the partitions so as to restore an original video data, wherein the bit stream comprises:
a slice start code (SSC),
the partition table storing the size information of each partition,
a first partition including a header portion having the information bits of the channel-coded video data,
a second partition having motion vector (MV) information,
a third partition having a discrete cosine transform (DCT) coefficient, and
a zero-bit inserting unit for a byte-aligning.

25. (Canceled)

26. (Currently Amended) A video data coding method comprising ~~the steps~~:
inserting a marker into a source-coded video data, partitioning it into a plurality of partitions, and dividing each partition into certain block according to a predetermined block size;

Reply to Office Action dated April 6, 2006

channel-coding the partition data of the divided blocks;
mixing the plurality of channel-coded partitions; and
checking whether a marker emulation has occurred in the mixed partitions and
performing a process to avoid a marker emulation, wherein the process to avoid a marker emulation includes:

generating a window having less bits than the marker bit,
checking whether a marker emulation has occurred between the partition
data while sliding the generated window, and
inserting a certain value at a next portion of a portion that matches the window to
avoid a marker emulation when the marker emulation is generated between the partition data.

27. (Previously Presented) The method of claim 26, wherein the channel coding is performed in units of bytes.

28. (Currently Amended) The method of claim 27, wherein the channel coding step comprises:

computing channel coding information with reference to an index of a channel coding rate table (CCRT); and

inserting the computed channel coding byte into the partition data of each block and performing a channel coding.

29. (Previously Presented) The method of claim 28, wherein the channel coding information is performed in units of bytes and is computed by the following equation:

the number of channel coding bytes = $\text{Trunc}(I * \text{CCRT}[\text{index}])$, wherein 'I' indicates an information byte, $\text{CCRT}[\text{index}]$ indicates a channel coding rate, and Trunc indicates a truncation operator.

30. (Currently Amended) The method of claim 28, further comprising the step of inserting an information bit termination bit of a certain bit at the end of the information bit of partition 3 so as to recognize a zero bit during the ~~channel coding process~~ channel-coding.

31. (Canceled)

32. (Currently Amended) The method of claim ~~[[31]]~~ 26, further comprising the step of transposing the ~~an~~ a information bit and the ~~a~~ a channel coding bit in the partition data when the marker emulation is generated between the data and the marker.

33. (Previously Presented) A video data decoding method comprising:
 searching a marker while removing bits inserted to avoid a marker emulation from a received bit stream;
 demixing the bit stream to a plurality of partitions when a marker is discovered;

computing a total bit amount, an information bit amount and a channel coding bit amount of each partitioned partition and channel-decoding the partition data according to an index of a channel coding rate table (CCRT); and

mixing the channel-decoded partitions, and performing a source-decoding on the partitions so as to restore an original video data.

34. (Previously Presented) The method of claim 33, wherein the total bit amount is a bit amount between the markers, in case of partition 1 and partition 2.

35. (Previously Presented) The method of claim 33, wherein the channel bit amount is a value obtained by subtracting the number of the information bytes (I) from the number of the total bytes (Total), and the number of the information bytes (I) is an integer value of $\text{Total}/(\text{CCRT}[\text{index}]+1)$.

36. (Original) The method of claim 33, wherein in case that one partition is made with a plurality of blocks and certain blocks correspond to a predetermined block size (BLS), the information bit is the block size and an additional bit is $\text{Trunc}(\text{BLS} * \text{CCRT}[\text{index}])$.

37. (Previously Presented) The method of claim 33, wherein in case that one partition is made with a plurality of blocks and certain blocks are smaller than the BLS, a channel coding bit amount is a value obtained by subtracting the information bits (small-info) from the number

of residual bytes (small_Total) by taking the partition as 'BLS+Trunc (BLS*CCRT[index])', and the information bit (small-info) is an integer value of $\text{small_Total}/(\text{percent}+1)$.

38. (Previously Presented) The method of claim 33, wherein the total bit amount is equivalent to a bit amount except for the information bit termination bit inserted at the rear end of the DCT partition and the zero-bit inserted for a byte-aligning, in case of partition 3.